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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,298	02/02/2001	Ira D. Sasowsky	UA372	9202

26360 7590 10/08/2002

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AKRON, OH 44308

EXAMINER

BARRY, CHESTER T

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 10/08/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Te-7

Office Action Summary

Application No.

09/776,298

Applicant(s)

SASOWSKY ET AL.

Examiner

Chester T. Barry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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USP 5863433 to Behrends at col 8 lines 4-11 describes draining AMD liquid through a bed of river gravel and limestone. The container holding the bed of particles is structurally indistinguishable from a "pipe." A pump is shown to add AMD to the beds. Accordingly, claims 1, 2, 3, 4, 6, 8, 9, 11 are anticipated by Behrends under 35 U.S.C. Sec. 102(b). The river gravel and limestone taught in Behrends appears to meet the limitations of "large blocks."

It would have been obvious to have used any size or shape of limestone and river gravel because Behrends does not teach any preferred particular size or shape. Accordingly, claim 7 would have been obvious under 35 U.S.C. Sec. 103(a) over Behrends.

Claims 1 - 6 are rejected under 35 U.S.C. 103(a) for obviousness over Burke, Budiet, and Stafford.

USP 5298173 to Burke describes placing limestone-containing (col 3 line 43) blocks in a natural stream or at the inlet to a lake to ameliorate the deleterious effects of acid mine drainage.

Applicants admit that AMD contributes to the acidification of surface streams and lakes. Budiet is further evidence they skilled artisans would recognize that a technical solution

effective in ameliorating acid rain-receiving streams and lakes would also work towards ameliorating the problem of AMD.

Accordingly, it would have been obvious to have placed Burke's limestone-bearing blocks downstream from the point at which acid mine drainage enters a natural stream or lake.

As shown by Stafford (col 3line 40), it is known that a lake bottom may vary in the composition and morphology of the surface structures, but among these are gravel and shale. It would have been obvious to have placed a block in an acid mine drainage receiving stream or lake, including lakes bearing gravel or shale at the bottom thereof.

The Burke limestone-containing blocks appear to meet the limitation of a large block. Further, the shale or gravel particles at the bottom of a stream or lake appear to meet the limitation of "large blocks."

Claim 6 is rejected under 35 U.S.C. Sec. 112, 2nd parag., for failing to particularly point out and distinctly claim the subject matter for which patent protection is sought. The specification offers no meaningful standard of how large a block must be to meet the "large block" limitations.

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Claims 1 – 5, 7 are rejected under 35 U.S.C. 103(a) for obviousness over Burke, Budiet, Stafford, and Weihe or Watten. Either Weihe or Watten implicitly suggests that gravel-shaped neutralizing agent, e.g., limestone, could be substituted for other shaped neutralizing agents.

Claims 8 – 11 are rejected under 35 U.S.C. Sec. 103(a) over Watten in view of Chapman. Watten describes treating AMD pumps into a packed bed of limestone particles followed ultimately by discharge to a natural stream or other body of water. At least one of the various technical literature references cited by applicants, e.g., Chapman, supports the recognition that natural stones, rocks, etc found in the stream bed collect precipitated metals emanating from the AMD.

Claim 10 is rejected under 35 U.S.C. Sec. 112, 2nd parag., for failing to particularly point out and distinctly claim the subject matter for which patent protection is sought. It is unclear what an “alternating ring” is. Unlike a static particulate layer in a packed bed, for example, an alternating rings is presumably annular in shape, but this is unclear from the specification.

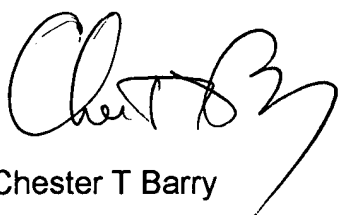
Fig. 4 and Fig. 5 of USP 4917802 to Fukaya are cited of interest.

USP 4465597 to Herman is cited for teaching neutralizing using limestone and processing with silica or sand carriers. USP 5635073 to Aktor is cited for

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demetallization of aqueous streams using a fluidized bed of quartz sand. USP 3840365 to Hammes is cited for limestone filter tank 38.

USP 6033559 to Bender is cited for (at fig. 16 and col 39 – 40) disclosure of a trickling filter followed by either (but not both) a limestone bed or a pea gravel bed. Metcalf & Eddy (1935) (p.494) suggest that the trickling filter comprise a layer of limestone particles overlaid by granite particles.

A handwritten signature in black ink, appearing to read 'Chester T Barry' with a stylized flourish at the end.

Chester T Barry

703-306-5921

10/4/02